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10/733,825	12/11/2003	Juergen Motzer	OMT/16	2211
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WOOD, HERRON & EVANS, LLP			FITZGERALD, JOHN P	
2700 CAREW TOWER			ART UNIT	
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CINCINNATI, OH 45202			2856	

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/733,825	<b>Applicant(s)</b> MOTZER ET AL.	
	<b>Examiner</b> John P Fitzgerald	<b>Art Unit</b> 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☒ Claim(s) 26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>04/09/04</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Claim Objections*

1. Claim 26 is objected to because of the following informalities: An “and” appears at the end of the claim, as well as the incomplete formation of a sentence statement. Appropriate correction is required.

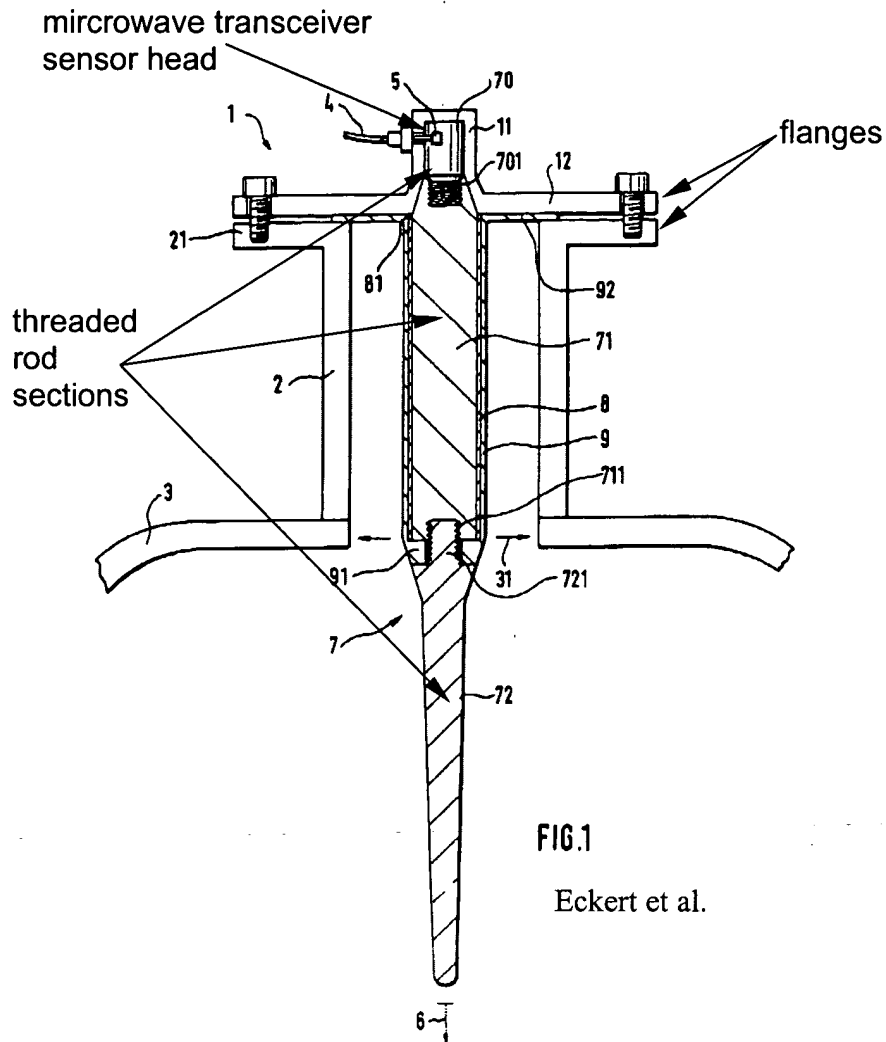
### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-9 are rejected under 35 U.S.C. § 102(b) as being anticipated by US 6,155,112 to Eckert et al. Eckert et al. disclose an apparatus for use in measuring fluid levels in a container (3) (Figs. 1 and 2) having a microwave transceiver sensor head (5) (as recited in claims 1 and 2) (Eckert et al.: col. 5, lines 12-17); a sensor rod/waveguide (7) comprised of a plurality of circular/curved (note: a circular surface is inherently “curved,” as recited in claim 8), threaded rod sections (70, 71, 72) allowing for screwed-connections (as recited in claims 1 and 3-5); wherein the outer surface of the rod sections may “have different cross-sectional geometries, compatible with the mode to be transmitted and the transmission frequency or frequencies, thus inherently encompassing recitations of claims 6 and 7) (Eckert et al: col. 5, lines 54-56) and further having a head flange (12) adapted to be connected to a corresponding container flange (21) (see Fig. 1 below) (as recited in claim 9).



***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

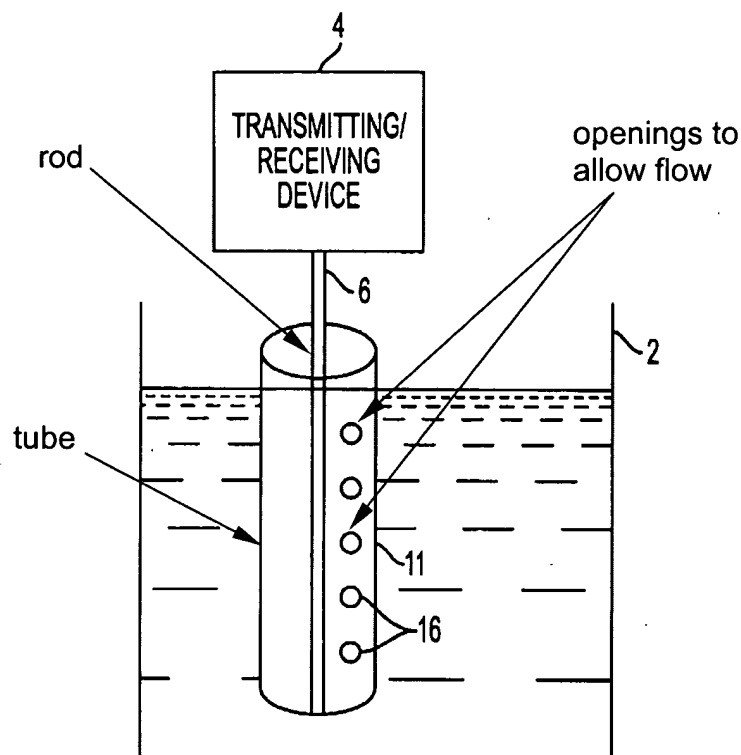
5. Claims 10-15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US 6,155,112 to Eckert et al. as applied to claim 1 above, and further in view of US 6,184,818 to

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Meinel. Eckert et al. disclose an apparatus for use in measuring fluid levels within a container having all of the elements stated previously, including a rod comprised of a plurality of screwed together rod sections. Eckert et al. do not expressly disclose the employment of tamper-proof restraints attached to the head flange (as recited in claim 10); a tube surrounding the rod, the tube comprising a plurality of tube sections adapted to be connected together (via a plurality of fasteners) and a plurality of circumferentially and longitudinally spaced slots in the tube and which are positioned on the tube so as to allow fluid equalization within the tube (as recited in claims 11, 13 and 15); wherein the rod sections are adapted to be connected/disconnected together and inserted/removed from the tube without disconnecting the tube sections (as recited in claim 12); wherein at least one tube section is curved (as recited in claim 14). Meinel teaches an apparatus for measuring fluid levels within a container (2) (Figs. 1-4) having a rod (6) surrounded by a hollow tube (11) for guiding a coupled-in microwave generated at a sensor head (4); the tube having a plurality of holes/openings (10, 16) (note: size and shape of the openings, such a slots are obvious variants known to one of ordinary skill in the art) located circumferentially and longitudinally of the tube for allowing flow into the tube (Meinel: claim 7) and contact the rod. Meinel further teaches the removal/insertion of the tube and rod and subsequent retrofitting (Meinel: col. 3, lines 9-22). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a tube having openings surrounding the rod, as taught by Meinel, forming it in a plurality sections, utilizing any type of well known fasteners or threaded ends, similar to the rod sections disclosed by Eckert et al., since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Newin v. Erlichman*, 168 USPQ 177 (BdPatApp&Int 1969).

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In specific regards to claim 10, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide tamper-proof restraints/connectors in securing the flanges of the apparatus since it was known in the art that tamper-proof fasteners and similar connectors are employed by those of ordinary skill when it so desired to prevent accidental or intentional tampering, and as such, is considered a design choice well within the purview of one having ordinary skill in the art. Lastly, functional recitation(s) using the words “for” and “adapted to” have been given little patentable weight because they fail to add any structural limitations and thereby regarded as intended use language. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. *In re Finstewalder*, 436 F.2d 1028, 168 USPQ 530 (CCPA 1971); *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) (“The manner or method in which such machine is to be utilized is not germane to the issue of patentability of the machine itself.”); *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). When interpreting functional language, if the prior art is capable of performing the claimed function-even if not directly disclosed-it anticipates. *In re Schreiber*, 128 F.3d 1473, 1478, 44 USPQ2d 1429, 1432 (Fed. Cir. 1997); *In re Sinex*, 309 F.2d 488, 135 USPQ 302 (CCPA 1962). See also MPEP § 2114, 2115.

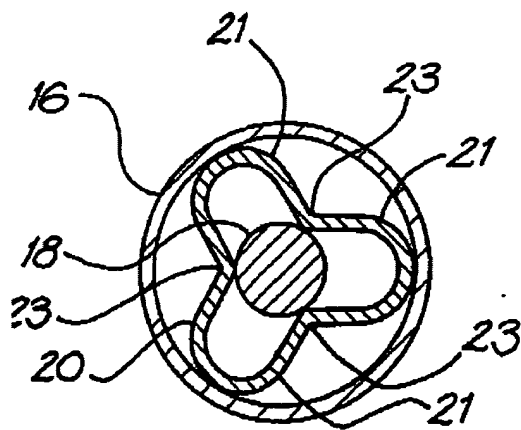


**FIG. 4** Meinel

6. Claims 16-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US 6,155,112 to Eckert et al. and US 6,184,818 to Meinel, as applied to claim 11 above, and further in view of GB 2385478 A to Gregory. Eckert et al. and Meinel disclose an apparatus for use in measuring fluid levels within a container having all of the elements stated previously. Eckert et al. and Meinel do not expressly disclose an apparatus for use in measuring fluid levels further including spacers attached to the rod, adapted to generally radially center the rod within the tube; a plurality of spaced notches, the notches adapted to receive the spacers and prevent the spacers from moving longitudinally along the rod; the spacers having radial extensions adapted to not penetrate the slots in the tube; the radial extension has a width wider than the width of the slots in the tube. Gregory discloses an apparatus for measuring fluid levels (Figs. 1 and 2) having

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spacers (20) with radial extensions (21) to radially center a rod (18) within a tube (16); as well as the use of spiders/spacers placed at regular spacings longitudinally that are located by sitting in grooves or engaging holes machine in the rod or surrounding tube (Gregory: page 2, lines 13-28). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ spacers with all the associated attributes, as taught by Gregory, modifying the apparatus for measuring fluids disclosed by Eckert et al. and Meinel, thus providing uniformity of signal as well as support against shock and vibration (Gregory: col. 2, lines 13-18). In specific regards to claims 18 and 19, it is considered an obvious design choice to one of ordinary skill in the art to employ the spacers of the proper size and overall shape without interfering with the slots in the tube, since these slots allow for the flow and equalization of pressure of the fluid whose level is to be measured. Clearly, the spacers taught by Gregory may be easily employed in this manner due to their overall shape (see Fig. 2 below).



Gregory

**FIG. 2**



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7. Claims 20-26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US 6,155,112 to Eckert et al., US 6,184,818 to Meinel and GB 2385478 A to Gregory. Eckert et al. disclose an apparatus for use in measuring fluid levels in a container (3) (Figs. 1 and 2) having a microwave transceiver sensor head (5) (Eckert et al.: col. 5, lines 12-17); a sensor rod/waveguide (7) comprised of a plurality of circular/curved (note: a circular surface is inherently “curved,” as recited in claim 21), threaded rod sections (70, 71, 72) allowing for screwed-connections; wherein the outer surface of the rod sections may “have different cross-sectional geometries, compatible with the mode to be transmitted and the transmission frequency or frequencies, thus inherently encompassing recitations of claim 20) (Eckert et al: col. 5, lines 54-56) and further having a head flange (12) adapted to be connected to a corresponding container flange (21) (see Fig. 1 above). Eckert et al. do not expressly disclose the employment of tamper-proof restraints attached to the head flange; a gauge tube surrounding the rod, the tube comprising a plurality of tube sections adapted to be connected together (via a plurality of fasteners) and a plurality of circumferentially and longitudinally spaced slots in the tube and which are positioned on the tube so as to allow fluid equalization within the tube; wherein the rod sections are adapted to be connected/disconnected together and inserted/removed from the tube without disconnecting the tube sections; wherein at least one tube section is curved (as recited in claim 14). Meinel teaches an apparatus for measuring fluid levels within a container (2) (Figs. 1-4) having a rod (6) surrounded by a ‘curved’ hollow tube (11) for guiding a coupled-in microwave generated at a sensor head (4); the tube having a plurality of holes/openings (10, 16) (note: size and shape of the openings, such a slots are obvious variants known to one of ordinary skill in the art) located circumferentially and longitudinally of the tube for allowing flow into the tube (Meinel: claim 7)

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and contact the rod. Meinel further teaches the removal/insertion of the tube and rod and subsequent retrofitting (Meinel: col. 3, lines 9-22). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a tube having openings surrounding the rod, as taught by Meinel, forming it in a plurality sections, utilizing any type of well known fasteners or threaded ends, similar to the rod sections disclosed by Eckert et al., since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Newin v. Erlichman*, 168 USPQ 177 (BdPatApp&Int 1969). Eckert et al. and Meinel disclose an apparatus for use in measuring fluid levels within a container having all of the elements stated previously. Eckert et al. and Meinel do not expressly disclose an apparatus for use in measuring fluid levels further including spacers attached to the rod, adapted to generally radially center the rod within the tube; a plurality of spaced notches, the notches adapted to receive the spacers and prevent the spacers from moving longitudinally along the rod; the spacers having radial extensions adapted to not penetrate the slots in the tube; the radial extension has a width wider than the width of the slots in the tube. Gregory discloses an apparatus for measuring fluid levels (Figs. 1 and 2) having spacers (20) with radial extensions (21) to radially center a rod (18) within a tube (16); as well as the use of spiders/spacers placed at regular spacings longitudinally that are located by sitting in grooves or engaging holes machine in the rod or surrounding tube (Gregory: page 2, lines 13-28). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ spacers with all the associated attributes, as taught by Gregory, modifying the apparatus for measuring fluids disclosed by Eckert et al. and Meinel, thus providing uniformity of signal as well as support against shock and vibration (Gregory: col. 2, lines 13-18). Furthermore, it is considered an

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obvious design choice to one of ordinary skill in the art to employ the spacers of the proper size and overall shape without interfering with the slots in the tube, since these slots allow for the flow and equalization of pressure of the fluid whose level is to be measured. Clearly, the spacers taught by Gregory may be easily employed in this manner due to their overall shape (see Fig. 2 below). In specific regards to claims 22-26, it is considered obvious to one of ordinary skill in the art at the time the invention was made to employ any method to assemble/install or the cleaning the components of the apparatus for measuring the fluid level within a container disclosed by Eckert et al., Meinel and Gregory in any desired manner or fashion.

### *Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jonsson, Wien et al., Hewelt et al., Palan et al., Edvardsson, Fleckenstein, Dougherty et al., De Carolis ; Miller Bak, Levine, Blackburn and Reimelt et al. all disclose various aspects of the instant invention including longitudinal slots, spacers and gauge tube sections.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Fitzgerald whose telephone number is (571) 272-2843. The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams, can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or

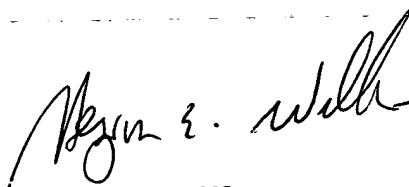
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JF

10/15/2004



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